

rowly shouldered at the summit and crossed by irregular, re-tractively slanting, somewhat vermiculated, sub-obsolete axial riblets, which are best pronounced near the summit and the suture. Suture moderately constricted. Periphery of the last whorl slightly angulated. Base short, well rounded with an umbilical pit marked by the continuation of the feeble axial riblets. The last whorl is solute for about one-twentieth of a turn. Aperture irregularly oval; peristome thickened and reflected. The interior of the aperture shows the columellar fold on the inner lip which it renders sigmoid. The type, U.S.N.M. No. 536900, has 9.1 whorls remaining, which measure: Height, 54.6 mm.; greater diameter, 18.3 mm.; lesser diameter, 16.2 mm. Columella as defined in the subgeneric diagnosis.

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## SPOROCASTS OF *LEUCOCHLORIDIUM* IN SUCCINEA FROM NEW YORK STATE

BY WILLIAM MARCUS INGRAM

Mills College, California

Zoological Laboratory, Cornell University

AND

OLIVER HAROLD HEWITT

Zoological Laboratory, Cornell University

Two different sporocysts of *Leucochloridium* are reported for the first time from New York State. The previously reported North American records of sporocysts of *Leucochloridium* are Iowa (Magath 1920), Michigan (Ward 1918), Ohio (Woodhead 1935), Illinois (Miller 1936), Indiana (Call 1898), Louisiana (Gower 1936), and Tennessee (Byrd 1940). McIntosh (1932) has described several species of adult *Leucochloridium* from Michigan and Alaska.

Both of the sporocyst types discussed here were taken from *Succinea ovalis* Say. One, collected at Ithaca, New York on May 23, 1940 by W. E. Heming, was banded with green, white, and dark brown; another collected on the Edmund Niles Huyek Preserve, Rensselaerville, Albany County, New York, on June 28, 1940 by the senior author, was banded with brown and white. These two collections of *Succinea* have been the only ones found in the two New York localities. At Rensselaerville, 300 speci-

mens of *S. ovalis* were gathered from the area in which the infected snail was found, but all were without parasites.

#### THE ITHACA SPORO CYST

The green, white and dark brown mature sporocyst branch was situated in the right tentacle of *Succinea*. When brought into the laboratory, the pulsating action of this sporocyst was vigorous, often causing it to contract completely out of the tentacle into the haemocoel, out of sight of the observer. After such violent contraction took place the branch always regained its position in the right tentacle, never erring and entering the cavity of the left tentacle, or being trapped in the haemocoel. The pulsations only took place when the branch was kept away from direct light. When the rays from a 60 watt bulb were thrown on the snail the branch became less active in its pulsations, and eventually contracted out of the tentacle. When the direct light was removed the pulsating movements were resumed. When the branch was completely retracted, it was noted that the right tentacle had been permanently stretched until it was about twice the size of the left one.

The mature sporocyst branch was removed and placed in normal saline solution. In the solution it began to discharge metacercariae from two holes caused by injury in removing it from the body of the snail. The metacercariae were popped out with such force that they were sent from 10 to 15 mm. away from the sporocyst branch.

Measurements of the sporocyst branch were taken after it had been preserved in three percent formaldehyde; it was 14 mm. in length and 2 mm. broad. The color of the mature sporocyst branch was most varied. The extreme distal end was light brown with three wart-like protuberances colored deep reddish-brown arranged around the center of the distal end. This zone was .25 mm. wide. The next color band, 2 mm. wide, was yellow-green flecked with white and red-brown spots which overlapped one another. Next was a zone of unspotted green about 1.25 mm. wide. This zone was followed by a band 1 mm. in width which had a white background with irregular green spots in an unorderly circle. The most proximal band was 2 mm. in width

with irregular longitudinally arranged streaks of red and white alternating with one another. The remaining portion of the sporocyst branch and its stalk were white in color.

#### THE RENSSELAERVILLE SPOROCYST

In the single specimen of *Succinea ovalis* collected at Rensselaerville, Albany County, New York, three well developed sporocyst branches were found. One was situated in each tentacle, and a third between them in the haemocoel. These branches were removed from the snail, the colors were noted, then they were preserved in three percent formaldehyde and measured. The left branch was 19 mm. by 4 mm., the right branch 17 mm. by 3 mm., and the middle branch 15 mm. by 3 mm. All three were banded very similarly with brown and white. The right and center branches each had sixteen bands of color, while the left branch had eleven. In the table below, which lists the color bands in order beginning at the distal ends, one can see that the three branches were similar in appearance.

#### *Color Bands of the Rensselaerville Sporocyst Branches*

<i>Right Branch</i>	<i>Center Branch</i>	<i>Left Branch</i>
red-brown	red-brown	red-brown
white	white	white
brown	brown	brown
white	white	dark brown, narrow
brown	brown	white
dark brown, narrow	white	light brown
light brown	brown	white
white	dark brown, narrow	brown
light brown	light brown	white
white	white	brown
light brown	light brown	dark brown, broken
white	white	
dark brown	light brown	
white	white	
dark brown	light brown	
dark brown, broken	dark brown, broken	

Below the dark brown, broken line, the proximal portion of the mature branches had numerous incomplete transverse brown lines.

The left and center branches were opened, and the metacercariae contained in them were counted. In the left branch were 160 metacercariae, and in the middle branch were 100 metacercariae.

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